

## COMMENTS ON THE REACTOR AND FUEL CYCLE TECHNOLOGY REPORT

1. **Table 5.** A comparison of the existing once-through, conventional light-water reactor fuel cycle with representative advanced nuclear energy systems in the long term, P. 34-36, is an interesting, if general, table. It could easily be made much more useful as shown in the attached table which puts the data into a generalized Multi-Attribute Utility Analysis framework. Because of the uncertainties in the data input, there also should be a sensitivity analysis of the data that would allow one to determine the relative value of each of the 4 methodologies. This input data is subjective but would, at least, allow one to see what is considered the relative ranking of the options as an aid to the discussion. Otherwise, one is left to sort out mentally 55 data entries and make some sense of them.

The rest of the table needs to be filled out, the proxy numbers need to be replaced by more acceptable numbers and the end results calculated.

2. The Sub Committee's "Central Conclusion(s-added)" are underwhelming—"Advances in nuclear reactor and fuel cycle technologies **may hold** (emphasis added) promise for achieving substantial benefits in terms of broadly held safety, economic, environmental, and energy security goals. " and

"No currently available or reasonably foreseeable reactor and fuel cycle technologies—including current or potential reprocess and recycle technologies—have the potential to fundamentally alter the waste management challenge this nation confronts over at least the next several decades, if not longer. "

How do these 'Central Conclusions' help DOE senior management or the President and the Congress decide what to do that is different from what they are doing now with little success? What should they be doing now that will help them solve the Nuclear Fuel Cycle Problems?

3. On P. 72 it is stated that The move by DOE to absorb the R&D responsibilities of the Office of Civilian Radioactive Waste Management into the Office of Nuclear Energy presents an opportunity for better integration of waste management considerations into the DOE nuclear energy research agenda." This ignores the previous history when much of the research from Environmental Management was transferred to the Office of Science where it was given lower priority than when it was in Environmental Management. Therefore, the research was being transferred back to the Office of Environmental Management. What indicates that the same thing will not happen here?
4. On p. 82 it is stated "Given this structure for the global nuclear energy market, there exists a compelling practical and economic logic for nations to choose to use regional or international fuel cycle facilities and services, rather than developing nationally owned

enrichment and reprocessing.” If this rationale is so ‘compelling’, are you asserting that Iran and North Korea never mind India, Pakistan and Israel, would give up their facilities?

5. There are numerous typos and other editorial problems. A better editorial job is needed.